National Institute of Environmental Health Sciences

The interconnectedness between landowner knowledge, value, belief, attitude, and willingness to act: Policy implications for carbon sequestration on private rangelands

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Abstract:

Rangelands can be managed to increase soil carbon and help mitigate emissions of carbon dioxide. This study assessed Utah rangeland owner's environmental values, beliefs about climate change, and awareness of and attitudes towards carbon sequestration, as well as their perceptions of potential policy strategies for promoting carbon sequestration on private rangelands. Data were collected from semi-structured interviews and a statewide survey of Utah rangeland owners, and were analyzed using descriptive and bivariate statistics. Over two-thirds of respondents reported some level of awareness of carbon sequestration and a generally positive attitude towards it, contrasting to their lack of interest in participating in a relevant program in the future. Having a positive attitude was statistically significantly associated with having more "biocentric" environmental values, believing the climate had been changing over the past 30 years, and having a stronger belief of human activities influencing the climate. Respondents valued the potential ecological benefits of carbon sequestration more than the potential financial or climate change benefits. Additionally, respondents indicated a preference for educational approaches over financial incentives. They also preferred to work with a private agricultural entity over a non-profit or government entity on improving land management practices to sequester carbon. These results suggest potential challenges for developing technically sound and socially acceptable policies and programs for promoting carbon sequestration on private rangelands. Potential strategies for overcoming these challenges include emphasizing the ecological benefits associated with sequestering carbon to appeal to landowners with ecologically oriented management objectives, enhancing the cooperation between private agricultural organizations and government agencies, and funneling resources for promoting carbon sequestration into existing land management and conservation programs that may produce carbon benefits.

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Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Policymaker

Other Communication Audience: rangeland owners

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Unspecified Exposure

Geographic Feature:

resource focuses on specific type of geography

Rural

Geographic Location:

resource focuses on specific location

United States

Health Impact:

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Mitigation

Resource Type:

format or standard characteristic of resource

Policy/Opinion, Research Article

Timescale:

time period studied

Time Scale Unspecified